DOCUMENT RESUME

ED 264 538 CS 008 241

AUTHOR Raphael, Taffy E.
TITLE Research on Reading: But What Can I Do on Monday? Occasional Paper No. 89.
INSTITUTION Michigan State Univ., East Lansing. Inst. for Research on Teaching.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
REPORT NO IRT-OP-89
PUB DATE Nov 85
CONTRACT 400-81-0014
NOTE 47p.
AVAILABLE FROM Institute for Research on Teaching, College of Education, Michigan State University, 252 Erickson Hall, East Lansing, MI 48824 ($4.00).
PUB TYPE Reports - Research/Technical (143) -- Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Elementary Education; *Reading Comprehension; *Reading Improvement; *Reading Instruction; Reading Processes; Reading Skills; Reading Strategies; *Teaching Methods; *Theory Practice Relationship

ABSTRACT

Focusing on research and its implications for classroom practice, this paper describes how students' comprehension of text can be enhanced by using a variety of easily available materials. The first section considers what successful reading involves in terms of the active nature of learning in general, the characteristics of skilled readers, and general principles for developing skilled readers. The second section presents research underlying specific techniques for instruction and describes these techniques, which are related to increasing the students' participation in some of the traditional areas of reading instruction (such as vocabulary development, prereading discussions, and guided reading). The third section examines some aspects of the social context in which reading occurs and the implications of current research for the role of the teacher, for grouping practices, and for the classroom setting in general. References and annotated lists of additional readings in this field are included. (Author/EL)

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ED264538

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RESEARCH ON READING: BUT WHAT CAN I DO ON MONDAY?

Taffy E. Raphael

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Published By

The Institute for Research on Teaching
252 Erickson Hall
Michigan State University
East Lansing, Michigan 48824-1034

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November 1985

This work is sponsored in part by the Institute for Research on Teaching, College of Education, Michigan State University. The Institute for Research on Teaching is funded primarily by the Program for Teaching and Instruction of the National Institute of Education, United States Department of Education. The opinions expressed in this publication do not necessarily reflect the position, policy, or endorsement of the National Institute of Education. (Contract No. 400-81-0014)

CS008241

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Abstract

As we strive to improve literacy levels in our country, current instructional practices have received national attention. Despite the wealth of research and reviews of research available, however, only recently have educators begun to stress the implications of this research for classroom practice. This paper weaves between discussions of research and the implications of that research for classroom practice. Its purpose is to describe how we can enhance our students' comprehension of text, using a variety of materials easily available in today's classrooms. The methods described promote active participation of students and interactive teaching designed to heighten student's comprehension abilities.

The first section considers what successful reading involves in terms of the active nature of learning in general, the characteristics of skilled readers, and general principles for developing skilled readers. The second section presents research underlying specific techniques for instruction, and describes the techniques themselves. These techniques are related to increasing the students' participation in some of the traditional areas of reading instruction (e.g. vocabulary development, prereading discussions, guided reading). The third section examines some aspects of the social context in which reading occurs and the implications of current research for the role of the teacher, for grouping practices, and for the classroom setting in general.

RESEARCH IN READING: BUT WHAT CAN I DO ON MONDAY?[1]

Taffy E. Raphael[2]

Reading instruction has been a part of education as long as words have been written, but reading research dates only from the beginning of this century when scholars like Huey (1908/1968) and Thorndike (1917) investigated various processes that underlie the skills involved in reading. More recently, many excellent collections of reviews of research have been published on reading comprehension (e.g., Duffy, Roehler, & Mason, 1984; Guthrie, 1981), on instructional research in reading (e.g., Pearson & Gallagher, 1983), and on models of the reading process (e.g., Kamil & Pearson, 1979), and on literacy (Raphael, 1986).

Why is there such a widespread and continuing attention to reading research and instruction? This nation is concerned that a significant portion of its population may be functionally illiterate. This concern does not even begin to address literacy beyond a functional level, such as concern for developing readers who independently seek to learn from text and are successful. Additionally, the National Assessment of Educational Progress (1982) reports that, while reading skills have improved somewhat among nine-year-old children, the performance levels of high school students have actually declined. In colleges, the demand for study-skills courses suggests that even for those "successful" college-bound students, reading *independently* to learn from text

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[1]This paper will appear in Koehler, V. (Ed.), Educators' Handbook: A Research Perspective, New York: Longman.

[2]Taffy E. Raphael currently is co-coordinating the IRT's Cognitive Strategy Instruction in Writing Project and formerly coordinated the Improving Reading and Writing Project. She is an associate professor with Michigan State University's Department of Teacher Education.

is a process that has not been well developed. While such conditions persist, a need exists to continue studying classroom practices to develop and improve effective methods for teaching students to learn independently from text.

The current literature of research on reading is rich with technical terms such as "schema-theoretic view of reading" (Anderson, 1979), "metacomprehension" (Raphael & Gavelek, 1984), "inference training" (Hansen & Hubbard, 1984), "mapping" (Armbruster & Anderson, 1982), and others. What do such terms have to do with classroom reading instruction? Do they help teachers with the age-old question of, "But what should I do on Monday?" Such research to date has yet to examine the overall body of reading research in terms of standard classroom structures and the teachers' typical responsibilities, yet they share a common assumption critical to effective instruction in reading: the notion that the learner's role is an active one and that active reading can be taught.

The purpose of this paper is to explore what research in reading does tell us about reading instruction in today's classrooms, with particular attention to techniques and methods that stress the need for students' active participation in the reading process and how the teacher can facilitate this process. Some of the research-derived ideas described here can be found in existing curricula, others could be added to existing curricula by teachers. All of these ideas rely on what is perhaps the most critical influence on whether or not children learn how to read, understand, and get meaning from what they read--the hard work of the individual practitioner. As Frase (1977, p. 42) states "by modifying purpose, by directing reading activities, the teacher influences learning" (p. 42).

The intent of this paper is to weave between discussions of research and the implications of that research for classroom practice, considering a number

of questions, some explicit, some more implicit, such as what makes a skilled reader? What do teachers need to know about learning, reading, and instruction to improve what may already be a reasonable reading program? What can we do to help students become skilled readers? What techniques can be implemented in classrooms today, using available resources? First, I will examine what successful reading involves, the active nature of learning in general, the characteristics of skilled readers, and general principles for developing skilled readers. Next, I will examine research underlying some specific techniques for instruction and describe the techniques themselves. These techniques are related to increasing the students' participation in some of the traditional areas of reading instruction: vocabulary development, prereading discussions, guided reading, and study strategy selection and use for independent reading. While much of the research behind these techniques has been conducted in elementary and middle-school grades, the ideas and instructional procedures are relevant to instruction at all levels. Third, I will examine some aspects of the social context in which reading occurs and the implications of current research for the role of the teacher, for grouping practices, and for the classroom setting in general.

When discussing related research, a distinction will be drawn, when relevant, among *descriptive studies* that show that a phenomenon exists, but do not demonstrate a causal relationship; *training studies* that involve the introduction of instructional techniques by a researcher either in a classroom or simulated classroom environment; and *instructional studies* that involve a test of instructional methods in classrooms taught by teachers. This distinction is an important one. One reason it is important to distinguish between descriptives studies and the training or instruction studies is that they serve different functions. A study can *describe* differences that exist between

skilled and less skilled readers, but the description does not necessarily mean that the differences are relevant. For example, skilled readers may read more quickly than less skilled readers, but merely teaching someone to read faster may not result in making the student a more effective comprehender of text. Training and instructional studies are thus needed. If a teacher teaches less skilled readers a strategy that has been identified in skilled readers, and the instruction improves the reading ability, one can assume that the strategy was relevant and directly influenced reading ability. Making a distinction between training and instructional studies allows researchers to indicate whether a relevant strategy was taught under "idealized" conditions such as a researcher or teacher working with a group of six students in a small room with no distractions or whether the relevant strategy proved effective when used under normal classroom conditions.

What Successful Reading Involves

If a group of reading researchers, cognitive psychologists, teachers, reading specialists, and teacher educators were in conference discussing the cognitive processes involved in reading, implications for teaching, constraints on learning, and other issues vital to reading instruction, there would likely be debate after debate. These debates would result from different perceptions of what happens in the reader's mind during reading. Indeed, people have engaged in debate for years about the history of reading instruction and research (e.g., phonics vs. whole word controversy [Chall, 1967], top-down versus bottom-up view of the reading process [Kamil & Pearson, 1979], and direct instruction vs. naturalistic learning). But one concept is widely accepted: that for successful reading to occur, readers must be *actively involved* in the reading process. Active participation is fundamental to strategic reading. What is meant by "active"?

Knowing about Knowing

The assumption of the active role of the learner derives from a large body of research in cognitive psychology on metacognition which describes one's "thinking about thinking." This thinking involves declarative knowledge or knowing *that*, procedural knowledge or knowing *how*, and conditional knowledge, or knowing *when* and *why* (Paris, Lipson, & Wixson, 1983). Skilled reading requires an understanding, at least implicitly, of these three areas of knowledge as they relate to reading.

Declarative knowledge in reading includes one's understanding of both text and personal characteristics that would influence the reading task. For example, declarative knowledge is used when a reader examines a text and recognizes that it can be read; when a reader describes reading as understanding print; or when a reader states that he or she is "good at reading." It does not tell the reader how actually to read a text, but does address the idea that there are differences in the ways one might read different texts and that different readers may require variation in reading tasks or may experience different degress of success in completing a reading task.

In a descriptive study of children's declarative knowledge of reading, Canney and Winograd (1977) examined good and poor readers, as well as older and younger readers', knowledge of the reading process. They found that the younger and less able readers had an entirely different view than that of the older and more able readers. The novice readers thought of reading as decoding rather than sense-making, and focused on sound/symbol relationships rather than comprehension. Other descriptive research provides further support (e.g., Paris & Myers, 1981, in their interviews with good and poor third- and sixth-grade readers). Implications of this research for instruction include the need to stress the goals of reading (e.g., comprehension) rather than the

means (e.g., word attack skills), particularly when working with the less able reader. Descriptive studies by Allington (1980) have demonstrated that, in practice, this rarely occurs.

Procedural knowledge in reading includes all those procedures or strategies a reader has available to reach a goal successfully in reading. These strategies for knowing how include skimming, study techniques such as outlining, understanding how to use rehearsal to remember specific details in a story, or understanding how to write summaries of text segments. This knowledge is fundamental to strategic behavior: The reader must possess a strategy before he or she can apply it appropriately in a given context. A number of research studies have attempted to teach students about procedural knowledge and will be discussed in the next section in detail. Examples of this research are the training and instructional studies conducted at the University of Illinois Center for the Study of Reading and at the University of Utah (Raphael, 1984) in which students were taught how to use different sources of information in answering comprehension questions. This knowledge of question-answer relationships has taken the form of three procedures or strategies for thinking about locating answers to questions: a "right there" procedure for locating answers explicitly stated in text, a "think and search" procedure for locating answers requiring the integration of textual information from more than one sentence, and an "on my own" category for locating answers from the reader's own knowledge.

Conditional knowledge, knowing when and why, serves to direct the flexible application of strategies across different contexts and in the service of different goals, whereas little research has yet been conducted to examine conditional knowledge, the importance of orchestrating declarative and procedural knowledge in a variety of contexts has often been discussed (e.g.,

Rogoff, 1982). Reading is not the same process at all times; thus successful reading requires differential application of strategies across contexts (Wixson & Lipson, in press). For example, students may be asked to describe the contents of a comic book to one of their friends, to describe the contents of a social studies chapter to their teachers, or to describe a newspaper article to their parents. Each of these tasks requires the application of comprehension strategies for recalling text; yet to apply the same strategy in all situations would not be efficient or necessarily effective.

In summary, examining metacognitive knowledge about reading involves studying the readers' knowledge of the reading process, their control over that process, and their underlying motivations in approaching reading tasks. To use declarative, procedural, and conditional knowledge to successfully read requires active cognitive behavior on the part of the reader. The characteristics of active learners and skilled readers are those educators wish to promote in their reading instruction.

What Are Active Learners/Skilled Readers?

As stated earlier, learning to read successfully involves learning a multitude of skills and learning to appropriately apply strategies that can aid in text comprehension. Declarative knowledge developed early by skilled readers is "concepts of print" (Mason, Stewart, & Dunning, 1986). One of the first differences between skilled and less skilled readers is in their understanding of such linguistic concepts as word, sentence, and paragraph. Another indication of skilled early readers is their knowledge of reading conventions such as directionality from left to right, what is meant by a book, a page, a story. Baker & Stein (1981) have noted that skilled readers learn that stories have predictable structures. For example, stories have protagonists who have to accomplish certain goals. There are conflicts that are

resolved over the course of the story, thus making an interesting plot. Young children may not have these labels available to discuss their knowledge, but skilled young readers do show an implicit understanding of such structures.

Second, skilled readers understand that the purpose of reading is to comprehend information, and they have a variety of strategies to achieve that goal. For example, skilled readers have well developed strategies for coping with unknown words. Descriptive research details skilled readers' strategies for fast word recognition (pronouncing a word) and, perhaps more important, word identification (understanding the meaning underlying the word) (Samuels, Begy, & Chen, 1975-76). Word knowledge has been shown to be one of the best predictors of skill in reading. (For a review of this literature, see Anderson & Freebody, 1981, providing substantial support for instruction to enhance vocabulary development.) In addition to strategies at the word level, skilled readers have strategies for comprehending prose. Comprehension skills have been indentified and traced developmentally in a number of research studies, describing those skills crucial for developing skilled readers. Among these skills and strategies are summarization, question answering and asking, and drawing inferences. For a description of the variety of comprehension skills and strategies used by skilled readers, see Ryan (1981) and Johnson & Barrett (1981).

Third, skilled readers are strategic in their application of the above skills for *comprehension* of text; they perceive a relationship between various means or strategies and ends. They differ from the reader who is successful at a particular task largely due to luck (see Paris, Lipson, & Wixson, 1983, for a thorough treatment of strategic reading). Paris et al. imply that strategic readers can be recognized by the presence of both intent and effort underlying the selection of an action to reach a goal. For example, in a

common reading comprehension task, readers are required to select a correct answer from a number of alternative answers. Strategic readers integrate information from the text and from background knowledge, carefully read the question and all possible answers, and then make their selection. In contrast, the less strategic readers may select one answer only because in preceding questions that answer letter had not been used. While both may end up with the correct answer, only the first case describes strategic behavior. Another aspect of strategic behavior, effectiveness, is also a characteristic of skilled readers. Ryan (1981) suggests that good readers use comprehension strategies more effectively and use more varied strategies than do less skilled readers.

Fourth, skilled readers are adept at the strategic application of *comprehension monitoring* skills (Garner & Reis, 1981). Comprehension monitoring involves not only understanding text but being aware of failures to understand. Comprehension failures may occur for many reasons, from inconsiderate or poorly written text (Armbruster, 1984) to inconsistencies with background knowledge or among information in text (Markman, 1979). Skilled readers recognize when failures to comprehend occur as well as what "fix-up" strategies to apply (Brown & DeLoache, 1978). Collins and Smith (1980) point out that fix-up strategies can range from least to most disruptive, including (a) ignore the problem and continue reading, (b) suspend judgment, (c) form a tentative hypothesis, using text information, (d) reread the current sentence, (e) reread the previous context, and (f) go to an expert source. Skilled readers are aware not only of their options, but also when to use each one.

How Do We Create Active Learners and Skilled Readers?

Having an understanding of the reading process--for instance, that the goal of reading is comprehension--is necessary, but not sufficient, for the

reader to control the process successfully. To control the reading process actively, readers must be aware of and use available strategies for comprehending and monitoring their comprehension; that is, their declarative knowledge has to be translated into procedural and conditional knowledge. Some researchers (e.g., Paris et al., 1983) have provided a basis for three general instructional principles in the teaching of strategies. While these principles may not represent a departure from traditional views of learning, they provide a unifying theme for many of the techniques to be described in the next section.

The principles underlying the instructional procedures to be discussed stress the uniqueness of teaching *cognitive*, in contrast to *physical*, strategies, and the need for teachers to help create an environment in which these skills can be modeled to help students acquire these strategies. The first instructional principle involves making cognitive activity visible to the novice reader. Unlike the case with learning strategies for a physical activity such as catching a ball, the novice is unlikely to be aided in learning such cognitive activities as reading by watching someone else read. What occurs in the brain must in some way be made visible to learners, or their chances of developing the requisite cognitive skills are reduced (Vygotsky, 1978). Further, Flavell and Wellman (1977) suggest that the easier cognitive strategies to learn are those that are external to the learner. For example, with regard to comprehension strategies, it would be easier to learn strategies for answering a question asked by an external source (a teacher or a textbook) than it would be for a learner to generate questions to enhance both comprehension and comprehension monitoring as he or she reads a text. A corollary to the first principle is that strategic reading behavior needs to be modeled or demonstrated by skilled readers (e.g., teacher, peer tutor) for the less skilled.

A second principle of instruction involves the need to make explicit the application of strategies in the service of higher order goals (Palincsar & Brown, 1984). Palincsar and Brown suggest that it is not sufficient merely to provide rules for using a strategy. Students must be taught explicitly both the importance of the strategy and how it can be applied *in context*. Duffy, Book, and Roehler (1983) state similarly that teachers' explanations to students should include what the skill or strategy is, how it should be used, and why it is important.

A third principle is the need to teach strategies initially as ends in and of themselves, before applying them in the context of reading independently. Some (e.g., Smirnov & Zinchenko, 1969) have suggested that learners need to learn strategies as ends prior to being able to use them as means to achieve a higher order goal. In terms of first teaching reading strategies as goals, two examples will be given--a lower and a higher order skill. One of the most commonly taught lower order decoding skills concerns the use of phonics rules. These are often taught as part of skill lessons in developmental reading groups, and usually taught as ends in and of themselves. Yet, much controversy has arisen over the value of such an approach and of the phonics rules themselves, with some researchers suggesting that neither may be of value (Clymer, 1963). One reason why the utility of such instruction may be questioned is that students can come to think of reading as "doing phonics worksheets" rather than as comprehending text. This will easily happen if the phonics rules learned as ends are not frequently and visibly modeled by successful readers using them to deal with unknown words in reading. A second example--summarizing texts--represents the other side of the problem: the disadvantages of not first teaching a strategy as an end in itself. Students may be asked in content area subjects to use summary writing as a study skill

to help them to remember text. If this skill has not already been learned and practiced so that it can be easily and competently applied, clumsy use of it during reading may actually interfere with the comprehension process.

In summary, the development of skilled readers involves teaching them declarative knowledge of the reading process--what it means to read, what strategies are available for comprehension, what strengths and weaknesses they bring to the reading task. It also involves teaching them procedural knowledge--how the various strategies can be implemented. Finally, it concerns teaching them conditional knowledge--explicitly stating and modeling for them both when and how the procedural knowledge operates most effectively, to help them understand the final steps in becoming independent strategic readers. Skilled reading has been recently likened to writing (Pearson & Tierney, 1983), suggesting that the reader, much like a writer, is constantly composing messages, planning, and evaluating--cognitively active and demanding skills.

How Can I Create More Skilled Readers

This section is devoted to examining research-based techniques for developing skilled readers. Again, the theme is that students must be encouraged to process actively information presented in the text, to make predictions, draw inferences, and evaluate the quality of the written material. In elementary classrooms and in some middle schools, the skills needed in successful reading are generally taught in conjunction with a basal reader story. In secondary schools, reading instruction is rarely a separate part of the curriculum and, thus, must be incorporated as part of content area courses such as English, science, and social studies. This reading instruction, often known as study skill instruction, is closely related to many of the techniques described below.

These techniques were selected based on both their proven worth in research settings and their potential generalizability across grade levels, although the focus in this section tends to lean toward the elementary and middle school settings. At these levels, the instruction generally occurs in a sequence that begins with vocabulary instruction, followed by a prereading discussion to set the context/purposes for reading, a guided reading discussion, and independent activities with the story. This section is not an exhaustive description of all possible techniques consistent with the philosophy of active learning, but is rather intended to present a sample of relevant techniques, supported by research, that can be used with existing materials during the time and in the sequence allotted for reading instruction. The organizational framework is intended to mirror the sequence of instruction in a typical series of reading lessons.

What Are Some General Principles for Vocabulary Instruction?

The importance of word knowledge for understanding text has been discussed and documented in research on reading (Anderson & Freebody, 1981), though it remains unclear as to exactly how such knowledge assists in reading. One theory is that the relationship is merely correlational; that readers with large vocabularies are those who are either more intelligent or have more general knowledge of the world. In either of these cases, direct instruction in vocabulary would not be warranted. Another point of view suggests, however, that the development of word knowledge facilitates comprehension since teaching vocabulary actually increases the reader's conceptual knowledge. Kameenui, Carnine, and Freschi (1982) tested this hypothesis and found evidence that teaching the meanings of words a reader will encounter in a text facilitates comprehension, thus underscoring both the importance of word knowledge for comprehension and the need specifically to improve reader's word knowledge.

It is apparent that a reader needs many encounters with a new word to learn it. This means that readers must be active in their manipulation of new words before we can expect these words to become a working part of their speaking and reading vocabularies. Activity in learning new vocabulary words has often been interpreted as teaching readers how to use contexts to determine the meaning of unknown words, as well as directing teachers to present words in context. Recently, however, Beck, McKeown, and McCaslin (1983) have suggested that the recommendation of the use of context may have overstated the case, that there are many different types of contexts, and that some may actually mislead readers as to the meanings of words. They classify contexts into two broad categories. Pedogogical contexts are those specifically designed to teach words not in the child's vocabulary. For example, the text might state that

> massive is a word used to describe something that is very large. A mountain is massive, and so is the ocean. Sometimes when you eat an ice cream sundae with three scoops of ice cream, nuts, bananas, and whipped cream, you might say the sundae is "massive"!

The other category of contexts includes those that occur naturally in text and either may or may not give a clue to the meaning of the word. A context may be misdirective in that it leads the reader to conclude that a word has one meaning when in fact it has another. An example quoted by Beck et al. (1983) of a misdirective context is from a story about Sandra's successful dance performance. 'Every step she takes is so perfect and graceful', Ginny said *grudgingly* as she watched Sandra dance, (p. 178). The context leads the reader to assume that grudgingly means "with admiration." A nondirective context would give no hint as to the meaning of a word (e.g., "Questions are ubiquitous"). A general context would provide some indication of the general meaning, but nothing specific (e.g., "The ball was too massive for him to carry by himself."). Finally, a directive context would be similar to the

pedagogical context described previously, differing only that it naturally occurs and therefore the author may not have intended to convey the meaning of the word. It is imperative that the teacher select words to be taught, evaluate the quality of the context, and make appropriate adjustments to increase the chance that the students understand the word to be learned.

Specifically, Beck et al. (1983) suggest that the teacher's role in vocabulary development should be to stress the learners' active involvement in using and manipulating the words to be learned. In their general guidelines, they describe that new vocabulary should first be presented in a pedagogical context, followed by discussion of the word's meaning(s). Children should have a mechanism for keeping track of newly acquired vocabulary knowledge and should be encouraged to use these words in nonacademic settings. Techniques that encourage students' active involvement in this process will now be described.

What Are Some Specific Techniques for Vocabulary Development?

No one method of vocabulary instruction can be used for all words and with students of all levels. Therefore, the teacher needs at his or her disposal a number of different methods for introducing vocabulary words. Gipe (1978-79) conducted a training study of four different methods of vocabulary instruction, one of which was looking up unknown words in the dictionary. The other three methods all relied on context of one form or another and were found to be superior to the dictionary method. The first method, free association, introduced a new word by pairing it with a familiar synonym or short definition. This is probably the minimal context one can provide. The second method involved categorizing. Students were given the new word as a heading for a category that contained three familiar words. They were then asked to add more words to the category. The third method involved the extended

definition, or pedagogical context as described with the word "massive." Again, students who were taught by any of these three methods performed at a higher level on a reading comprehension task than those who looked up the same words in a dictionary.

A method used in an instructional study by Hansen and Ahlfors (1982) required somewhat more activity on the part of the learners as they used the words in sentences related to their background knowledge. These researchers adapted a questioning technique developed by Hansen for previewing stories (Hansen & Hubbard, 1984) for use in vocabulary instruction. The principle underlying this technique is that of building from known to new information. In so doing, a word is first presented, defined, and then presented in context: "Recycled means to turn something that is useless into something that is useful. Old pieces of newspapers can be recycled and made into wrapping paper." Then, students are asked to relate the vocabulary word to their own experiences: "Can you tell me of something you have recycled?" This activity is conducted orally during the reading group so that students both have a chance to use the word orally themselves and can listen to others give examples, which helps to extend their own conceptual understanding.

McKeown (1985) conducted a training study designed to specify the types of contexts that could be used to provide students with effective repeated experiences to learn new words. Her method could be used by teachers to enhance children's exposure to a word and to increase the probability that the word would become part of the child's vocabulary. In addition, by repeated exposure to the instructional method, students can learn how to use context clues to make decisions about what words mean. McKeown began by presenting an unknown word in context. (For the purpose of her study, she used artificial words such as "narp," however, in practice, a teacher would merely select

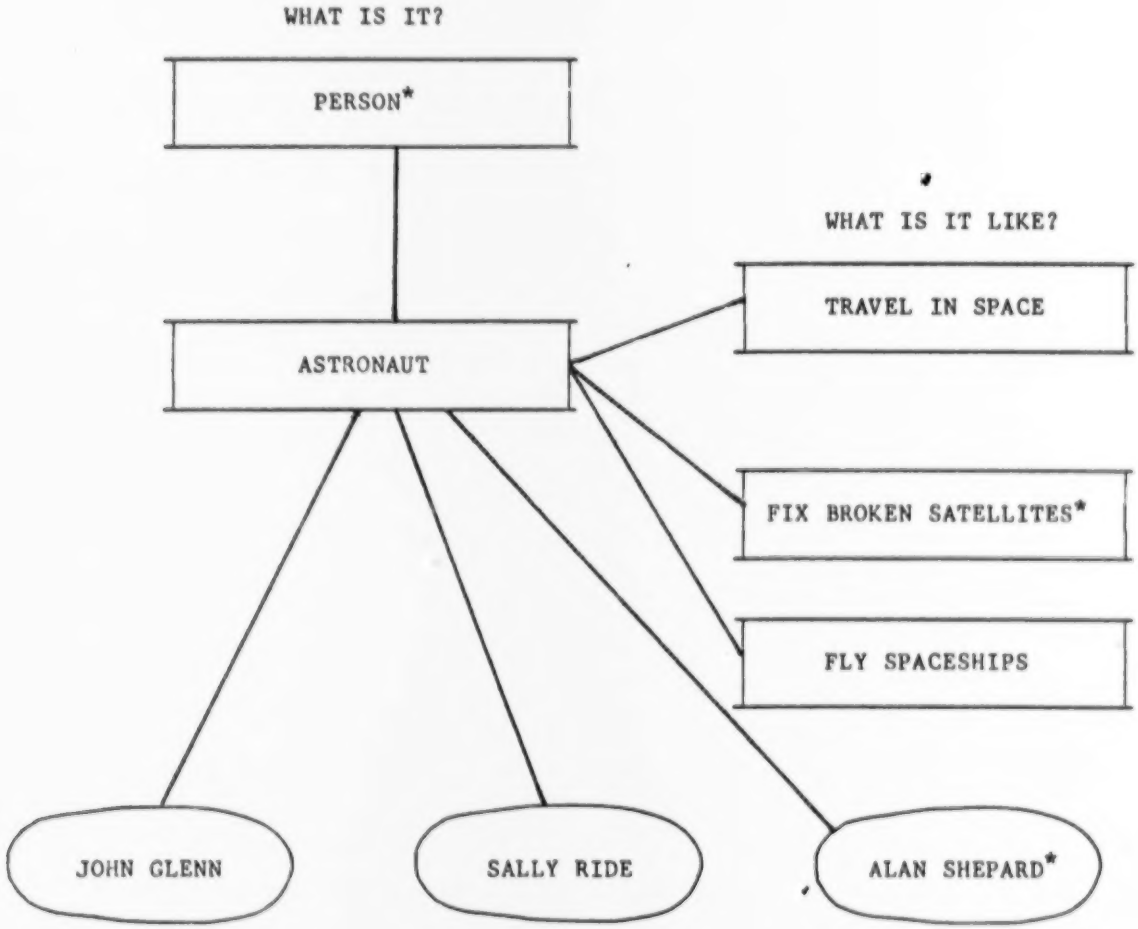
words that she knew were unfamiliar to the students.) Six potential synonyms, all familiar words, followed the unknown word. The teacher asked students to decide, for each choice, whether or not it was a plausible meaning for the unknown word. For example, in the sentence, "Standing in front of the house, we all agreed that it seemed like a narp house," "brick" and "ordinary" are plausible but not "shy." In the second step, the teacher provided more sentences using the word, and students repeated the task of deciding on plausible synonyms. For example, in the sentence, "It was hard finding the right gift, because everything in the store was so narp," it's unlikely that the synonym is "brick" but quite likely it is "ordinary." In the third step the teacher presented three more sentences, based on one of the earlier sentences, further using the target word. In the fourth step, the teacher asked students to define the word. In step five, she gave students six sentences using the word and asked them to tell if the word was used well or inappropriately. By the end of these activities, the students had the opportunity to practice using the word in sentences, talking about the meaning, and thus were more likely to make it part of their permanent vocabulary. However, the process requires a significant time investment, so the method should be applied only to words that are important to acquire as part of the students' reading vocabulary.

Beck et al. (1983) note that "many children do not know that they don't know a word" (p. 180). Schwartz and Raphael (1985) suggest that this may be due, in part, to a lack of a concept of definition. Thus, students may have one kind of problem when they come to a word in print that they do not understand. They may have a second, broader problem when they do not have a concept for selecting information from the context that could be useful in determining the meaning of the word. Schwartz and Raphael adapted the technique of semantic mapping to develop a concept of definition that would help readers to understand new words. Semantic maps are based on the notion that

concepts are connected to one another in memory through specific relationships such as "example," "property," and "class." Visual "maps" of these semantic relationships can help clarify the meaning of words and longer units of text. Schwartz and Raphael used such visual maps in two training studies designed to teach students how to determine whether or not they understand a word by explicitly teaching them what constitutes a definition. A sample map is presented in Figure 1. The center rectangle shows the word to be defined. The top rectangle gives a synonym or brief descriptor for the defined word (i.e., "What it is"). To the right are explanations and/or descriptions relating to the new word (i.e., "What it's like), while the ovals at the bottom present examples of the new word. The instructional sequence progresses through the four activities shown in Table 1. In the first activity, students are introduced to the three components of a definition using the categorization task shown in Table 1 for the word "soup." The teacher begins by asking students to find a word that answers the very general question "What is it?" for the word to be defined. The general word in the example is "food." Then the teacher states that food answers the questions for many different kinds of foods and directs students to locate phrases or words which describe a special kind of food, soup. These words answer the question, "What is it like?" Finally, examples are located. In the next phase of instruction, the teacher presents words in complete contexts; complete is defined as having at least one class, three properties, and three examples. Children map the word and write what it means. The third phase has similar activities but using partial contexts. In this lesson students begin to use their own background knowledge as well as the text. Finally, students use the decision task in which they read a word in context, then a definition of the word, and decide if the definition is a good one. If not, they add the necessary components using their

Context from which word was mapped: The space shuttle is in space again, this time with five astronauts on board. What an exciting job to have! Astronauts are lucky to be able to travel into outer space. Once there, they have many tasks, from flying the spaceship, to conducting experiments. People like John Glenn and Sally Ride must really enjoy their work!

Vocabulary Map:



*From reader's background knowledge

Figure 1. Example of vocabulary mapping

TABLE 1
Instruction Sequence for Semantic Mapping

Categorization Tasks

SOUP (carrot)	CLOWN (policeman)
chicken noodle	wears a lot of makeup
served with sandwiches	Bozo
tastes good	a person
is a liquid	works in a circus
cream of mushroom	does funny things
eat it with a spoon	wears bright colored clothes
served before the main dish at dinner	likes children
	rodeo clown
vegetable noodle	Oopsy
made from milk sometimes	has a large fake red nose
served in a bowl	
food	

Words In Complete Contexts

These examples are considered complete because they refer to one superordinate term, at least 3 characteristics, and at least 3 examples.

Crops

Have you ever been to a farm? Have you ever seen a farmer work with his crops? Crops come from seeds planted by the farmer early in the spring. The farmer takes care of his seeds all spring and summer long. Early in the fall, crops are harvested and taken to market. At the market they are sold to people like you and me. Farmers can plant different kinds of crops. Some plant potatoes. Some plant onions. Some plant corn and tomatoes. Fresh crops sure taste good!

Words in Partial Contexts

These are partial contexts because they do not have all the components needed to fill in a map and write what the word means.

Environment

You hear a lot these days about our environment, but what exactly is it? We hear a lot of talk about a clean environment. Many parts of our environment need cleaning. The better our environment, the happier we can be.

Student Decision-Making Task

Astronaut

The space shuttle is in space again, this time with five astronauts on board. What an exciting job to have. I'll bet people like John Glenn and Sally Ride really enjoy their work.

Definition: Astronauts enjoy their work. Examples of astronauts are Sally Ride and John Glenn.

____ This is a complete definition.
____ This is not a complete definition. Things to add are:

background knowledge, the dictionary, or other source books. With this technique, students are actively engaged in (a) learning new words from reading, and (b) learning to use information from text and background knowledge.

In summary, a teacher can use a variety of methods for introducing vocabulary words to students. Thought must be given to the amount of context required for the meaning to be understood, to the method most appropriate to learning a given word, and to the amount of student involvement in manipulating the word. The methods presented above go beyond the less successful means of having students look up words in a dictionary, copy sentences from a workbook or blackboard, or use words in sentences. The underlying theme is to have students *use* the words in a variety of contexts, selecting words that may indeed become parts of their own vocabularies. Once students become familiar with potentially difficult words, they can begin to focus on the larger meaning units in the story to be read.

How Can Previewing a Story Be Used to Promote Active Reading?

An outgrowth of the emphasis on the active role of the learner has been a growing realization of how important background knowledge is in understanding stories. Descriptive research (e.g., Bransford & Johnson, 1972; Pearson, Hansen, & Gordon, 1979) has demonstrated conclusively that readers' background knowledge accounts for much of their comprehension of text. This means that for readers to understand a story it is important that they not only possess the relevant background knowledge but that they also be able to recognize when it is important for them to think about it during the stories they are reading. Beck, McCaslin, and McKeown (1981) examined prereading activities in basal readers designed to set the purpose for reading. They suggest that purpose setting in basals should be designed such that appropriate background

knowledge is activated. Instead, they found that the direction-setting activities suggested in the basal manuals are designed to promote information gathering, by having students locate particular story segments.

They found three related categories of problems with basal prereading activities. First, some prereading activities may actually misdirect the students, evoking inappropriate expectations of what might be found in the text. Second, the directions may be relevant, but so narrow in scope as to exclude much that is important in the text. Third, some activities give away much of the story, and in such a way that students become less, rather than more, interested in the story after prereading activities. Beck et al. (1981) conclude by stating that, "until the developers of reading programs reconsider what should underly their purpose and begin to formulate it in terms of schematic design, the teachers themselves should do so" (p. 160).

Two prereading programs that can be used with both basal readers and trade books recently have been developed to facilitate children's understanding of text. Au (1979), working with culturally diverse students in Hawaii, and Hansen (Hansen & Hubbard, 1984) have developed prereading questioning procedures designed to build background knowledge when it is not available, and to activate the relevant knowledge that can be made available. Au and her colleagues have worked with Hawaiian students who were not achieving well in reading, sensitizing them through questions to the importance of background knowledge in understanding the stories they read in school. In the first phase of the lesson, the teacher asked the students to think about personal experiences relevant to a given topic and then discuss them as a group. After this discussion, the teacher had the students make predictions about the content of the text to be read and possible story lines. These predictions often are based on both the discussions and pictures in the stories. After students

have read the text, the relationship between their background knowledge and the text information is explicitly drawn. This method is known as ETR--experience, text, relationship.

Hansen and Hubbard (1984) have used a similar method known as inference training to help readers to access the background knowledge relevant to a particular story. Prior to having the students read a story, the teacher selects three concepts for which the reader would have to draw inferences to understand the selection. For each concept, two parallel questions are developed--one prior knowledge question and one prediction question. The procedure begins with asking the students the first prior knowledge question (e.g., What things have made you feel embarrassed?). The students discuss the question, accessing their relevant background knowledge as well as adding to it through their interactions with the other students. Then the students write their own brief answers, insuring that every child has thought about a relevant experience. The same procedure is then followed for the parallel prediction question (e.g., In our story today, a young boy is embarrassed in school. What do you think might have made him feel that way?). The process continues for the two remaining sets of prior knowledge and prediction questions. Once children have been given a purpose for reading, they read the story silently; however, it is important for their development as readers to reconvene and discuss the story. This discussion leads to a rereading of the story, or what is known as guided reading.

How Do I Use Guided Reading to Promote Active Reading?

During the guided reading of text, the effective teacher helps the readers to focus upon important text elements, identify the central theme of the story, evaluate any predictions made during the prereading activities, and draw those inferences necessary to comprehend the passage. Probably the most

commonly used technique during this phase of the reading lesson involves the use of questions, primarily questions generated by others (i.e., by the teacher or the text).

A number of researchers have criticized the comprehension questions asked in basals and by teachers as being too literal in nature (Guszak, 1967), as not having a logical sequence or order (Beck & McKeown 1981), or as placing too much emphasis on assessment and not enough on instruction (Durkin, 1981). Fortunately, recent instructional studies have examined question asking by teachers and students' understanding of the sources of information that are available to them when answering questions asked by teachers or textbooks. The focus of guided reading questions is on the text phase, in Au's (1979) terminology of ETR, the activities involved in guiding the students through the passages they are reading.

Pearson (1982) and Beck and McKeown (1981) have suggested teachers' use of story maps to guide them in asking questions relevant to the central theme of a story. A story map is in some ways similar to a vocabulary semantic map. It is a graphic representation of the theme of the story, visually mapped for ease of reference. Pearson suggests three steps, in the form of questions teachers should ask of themselves, for generating a story map and accompanying questions. First, begin with a setting question and ask if it is important information for understanding the story. If it is not important, omit it. Second, ask a question about the protagonist(s), followed by a problem question (e.g., What is the problem of the protagonist(s)? or What is the need of the protagonist(s)?). This second step identifies the goal of the story. Third, identify the steps that the protagonist goes through to attain the goal. From these steps, a teacher could develop cohesive series of questions that would help the reader to identify the central elements to the story.

What Independent Reading Activities Enhance Comprehension Through Active Reading?

The teacher must teach students not only the basic strategies for decoding words but also the more complex skills of how to interpret text independently, integrate that information with background knowledge, and monitor students' comprehension. A number of techniques recently investigated, in addition to those described above, have applied early research in study skills to the need to teach comprehension and comprehension-monitoring abilities. In what follows, the focus shifts from helping children to understand a specific text, to helping children understand how to comprehend text as they read independently. The additional techniques to be described in this section can be thought of as organization as well as monitoring aids, and will be divided into graphic aids and text aids.

Graphic aids have been proposed for many years, although more recently the focus has been less on providing students with such aids and more on requiring students to produce graphic representations of text to aid their comprehension. Visual aids known as mapping, networking, and flow-charting have been and continue to be researched with both elementary and secondary school students (Armbruster & Anderson, 1982). These maps are similar to the ones described above for definition instruction but, rather than developing a single concept, they depict how a number of concepts may be related in texts of different structures.

Armbruster and Anderson (1982) describe several different text structures and relationships (e.g., cause and effect, definition, compare and contrast). They have taught students both to recognize such relationships and to display them using a different graphic symbol for each relationship. A definition might be represented by a small box containing a word inside a larger box containing the definition or description. A cause and effect might be

represented by two boxes--one containing the cause, one the effect--connected by an arrow showing the direction of the relationship. While they have not used the mapping technique with large units of texts such as chapters, it has been successfully taught and has improved children's understanding of subsections of science and social studies texts.

Other methods have been used to represent text without the use of visual or graphic aids. Examples include such traditional independent reading skills as SQ3R (survey, question, read, recite, review), summarizing, and outlining. In an instructional study Adams, Carnine, and Gerston (1982) evaluated the contributions of each of the steps in the SQ3R studying technique. They suggest that the five steps of SQ3R, and an additional step called rehearsal, have a great deal of support in current research. They have observed teachers who taught fifth-grade students to (a) preview a passage by reading all headings and subheadings, (b) recite the subheadings, monitoring the success in recitation by self-checking procedures, (c) generate questions based upon the subheadings they had recited, (d) read to find important details related to the questions they had developed, (e) reread the subheading and recite the important details to provide a review of small increments of text, and (f) rehearse by reciting each subheading and important detail. The first five steps are designed to be used with subsections of texts, whereas Step 6 is to be performed after an entire selection has been read. After participating in the instructional program, fifth-grade students improved in their understanding of texts.

Taylor (1982) has examined the use of outlining in teaching students to comprehend expository text in content-area subjects such as social studies and science. Outlining is actually one of five steps included in a hierarchical summary procedure that children learn and leads to the goal of being able to

summarize the important information in a passage. Based on traditional outlining techniques, and modifying them to make explicit the rules of a cognitive skill and to model such skills for students, Taylor has students create outlines step by step, beginning with main headings and subsections; then students reread for detail information; next students write a summary for each section; and finally they orally retell the story to a partner.

Day (1980) and Winograd (1984) have also examined the use of summarizing strategies for comprehension of text. Day worked with junior-college students, but the technique is applicable to younger students. She developed a series of six summarization rules that could be taught to poor readers and writers, accompanied by self-checking strategies to assure that the strategy was being used. Two of the rules involved deletion: (a) Delete information that is unnecessary or unimportant, and (b) delete information that is redundant. Two of the rules involved substitution: (a) Substitute a superordinate term for a list of items (e.g., pets instead of dog, cat, canary, and goldfish), and (b) substitute a superordinate term for a list of actions. Two of the rules concern the use of topic sentences: (a) Select the topic sentence, and (b) if there is no topic sentence, invent one. For each set of rules, a different colored pencil could be used. Thus, when working independently, students have a built-in, self-checking system to assure that all rules have been attempted.

Teaching methods such as inference training, ETR, and mapping all involve teachers asking questions to aid in children's literal and inferential comprehension of text. One common goal of such techniques is that children understand the questioning activities and the strategies that are available to them to answer the questions appropriately. In past research my colleagues and I (Raphael & McKinney, 1983; Raphael & Pearson, 1985; Raphael, Winograd, &

Pearson, 1980; Raphael & Wonnacott, 1985) have examined students' declarative and procedural knowledge of the question-answering process. We found that, even though students tend to spend much of their academic time in answering questions, they actually knew very few of the rules that guide the question-answering process. In one training study and two instructional studies, students from fourth through eighth grade were taught to recognize three general categories of question-answer relationships (QARs): "right there," "think and search," and "on my own." A right-there QAR occurs when the words used to create a comprehension question and the words used to answer the question are contained in the same sentence. A think-and-search QAR occurs when an answer can be found in the passage just read, but requires the reader to integrate information across sentences or paragraphs. An on-my-own QAR occurs when a question requires readers to access their background knowledge since the answer would not be located anywhere in the text. Research conducted using the QAR training program consistently demonstrated that making such knowledge available to students improved their ability to answer comprehension questions. Thus, while not something to be used in every story discussion, teaching students about QARs can provide a vocabulary and knowledge set for strategic search of information sources when answering comprehension questions. It also provides a way to help them to use questions themselves when reading independently.

While it is common for students to be guided through their reading by being asked questions as they read, a less common, but very effective means of guiding reading has been used in training and instructional studies by Palincsar (1984). She has used a program called reciprocal questioning in which students learn to lead story discussions, first by seeing their teachers model for them appropriate question-asking strategies, then by having the

teachers gradually transfer the role of question asker to the students. The teacher provides extensive guidance and feedback as to the types and quality of questions asked, gradually turning the control of the discussion over to the students as they develop skills in generating relevant comprehension questions.

In addition to the techniques introduced in this section, several of the ones already discussed are relevant to this aspect of instruction, or can be made relevant, by helping readers learn to use effective teacher techniques on their own. For example, Hansen and Hubbard (1984) added a simple component to the instructional program--focusing students' attention on what kinds of questions they were being asked prior to their reading (i.e., questions about their background knowledge, and how their background knowledge helps them to make sense of the readings). Then they asked them such questions as, if you were going to read a story about children in Alaska, what questions do you think I might ask? Again, the focus is on the active role of the learner and the need to make explicit the rules and the application of the various study and comprehension-monitoring techniques. In this case, children are being taught directly that, before reading a new story, they should think about relevant information from their own experiences. A second example is Schwartz and Raphael's concept of definition instruction (1985). Students who learn the concept of mapping a word to define it have been taught how to use context clues to understand new words. They also have learned a useful skill for those times when defining a word by using the dictionary is necessary.

In summary, many strategies are available to enable students to become successful independent readers, which is the goal of teachers of reading. The important point to note about all of these techniques is that they require the active participation of the learners in developing an understanding of the

meaning of texts they are reading. Further, they can develop this understanding using a variety of techniques, but only if they are explicitly instructed in the rules and the value of the methods (Brown, Campione, & Day, 1981; Duffy et al. 1983). The context in which this instruction occurs and the social factors that influence or should influence reading instruction is the concern of the next section.

What Are Some Social Factors That Influence Reading?

Interest in the social context of cognitive processes in general has been on the rise, and reading as a cognitive process is no exception. What is meant by the social context of reading? One obvious meaning is the impact of the social environment of the classroom, specifically the impact of grouping for reading instruction. A second meaning is rooted in research from Soviet psychologists such as Vygotsky and his students. This body of research has examined the role of social mediators in learning; that is, the role of adults--parents and teachers in explaining, modeling, and directing children's learning experiences. This work is the basis of many of the techniques for developing active readers as described above.

Teachers often group students as one means of coping with the wide range of students' abilities in a single classroom. Grouping can be a valuable step towards providing individual instruction. However, grouping practices can have a negative impact if teachers are not sensitive to the way they may interact with groups differently. Students are quite perceptive of their teachers' opinions and are influenced by these opinions (Weinstein, 1986). Heibert (1983) has reviewed the effects of ability grouping on students' reading achievement and suggests that such grouping can affect reading development. Differences in the way teachers interact with groups of low and high ability have been observed (Allington, 1980). For example, teachers give

students of high ability more time to answer questions and the patterns of question asking and answering tend to be rather analytic compared with their interactions with students of low ability levels. There are also differences in the way teachers interrupt students of differing levels, with students of low ability interrupted more frequently after reading errors, given more cues about letter sounds, and interrupted more by other students in the class seeking the teachers' attention. Also, a difference existed in the content of reading lessons: High ability students' lessons focused on silent reading and comprehension, while low ability students' lessons focused on word attack skills and oral reading. Interestingly, Wonnacott and Raphael (1982) noted that, as students get older, there is an increasing disparity between high and low ability students' metacognitive knowledge--declarative, procedural, and conditional--about comprehension (as measured by their understanding of the process of answering comprehension questions). Perhaps the lower ability students began to rely more and more on the adult to monitor their progress, whereas students of higher ability began to develop the independence necessary to monitor their own comprehension of text. Developing independent readers within a social context is the focus of the research and practice based upon Vygotsky's theoretical work.

The term "social context" takes on a slightly different meaning when considered in Vygotskian terms. From this perspective, reading is a social process in that reading develops in a context in which skills and strategies are "mediated" by an adult or more able peers. Mediation can be used to describe the process of making explicit those skills that are implicit, or to describe adult interpretation and modeling of a cognitive process, so that the young reader or learner can gradually take over control of his or her own learning process. This transfer of control happens gradually over the course of the

students' education. While Vygotsky presented his theories in terms of individuals learning, the transfer of control through mediated learning has been successfully applied to group instruction in reading (Au & Kawakami, 1986).

Underlying Vygotsky's concept of mediated learning is the process of "scaffolding." A scaffold is a support that is both flexible and temporary--as when physically used to support the workers constructing a building. Similarly, when a new cognitive skill is being introduced, a scaffold is provided in the form of a great deal of teacher support that moves towards little or none. For example, in teaching QARs, the teacher first gives the students a passage followed by a question, an answer, what the question-answer relationship is, and why. The scaffold provides support at all points in this sequence. When the students seem to understand what has been discussed, the teacher provides the question, answer, and QAR, but in this phase removes part of the scaffold: no longer explaining why but asking the students for the explanation. Next, the teacher has students both identify the QAR and tell why, giving them only a passage, question, and answer. Finally, students provide an answer, the QAR, and their own explanations--the scaffold would be removed entirely. In this way, there has been a gradual transfer of control of one cognitive strategy in reading from the teacher to the student.

How can transfer of control be accompanied? What are some techniques for mediating learning? A number of techniques described previously could be adapted to uphold the principles of mediated learning. In Hansen's inference-training method, for example, over the course of the year, students could first begin to make up the prediction question after being presented with a prior knowledge question; then make up both questions when given a concept;

and finally be led to select important concepts from stories and think of corresponding questions. The scaffold would take the form of first presenting concepts, prior-knowledge questions and prediction questions and gradually removing pieces of the support in a logical order until the reader could stand on his or her own.

The teachers' explanation behavior in mediating learning is critical. The work by Duffy et al. (1983) mentioned previously is relevant to mediating learning in that it is through the teacher' explanations that students come to understand how to implement the various strategies they have been taught. Teachers need to be explicit about why a particular strategy is being taught and how it can help students when they are reading independently. Another way in which mediation can occur is through modeling. Green and Harker (1982) suggest that reading aloud to children takes advantage of a naturally supportive social context and provides ample opportunity for instruction and growth of knowledge of reading. Modeling silent reading has become an integral part of the reading program with the introduction of Sustained Silent Reading (SSR). This procedure is quite simple: the teacher, principal, teacher aides, or any other adult in a classroom setting read silently along with the students. Student selection of any reading materials of interest is encouraged and the emphasis is on modeling the satisfaction of reading for pleasure. While there has been little empirical evidence suggesting that SSR by itself will change reading achievement, in conjunction with other forms of mediation, it may enhance reading performance (Fielding, Wilson, & Anderson, 1986).

To summarize, research about social mediation that is necessary for the development of independent readers has provided us with insight both into "the way it is," as well as "the way it ought to be." A focus on teaching students

to control their own reading process can have a large impact on the kinds of changes that would help improve students' chances of becoming successful and independent readers.

What Needs To Be Taught When We Teach Reading?

The purpose of this paper was to present the theoretical underpinnings of current concerns of researchers, teacher educators, and teachers regarding instruction in reading skills. On the one hand, as educators learn more about the reading process, the notion of teaching such a complex cognitive skill becomes almost overwhelming. On the other, it is also clear that much can be done to teach reading effectively. First, it is important to assess informally the readers' background knowledge, both at the level of words and concepts. Second, it is important to activate relevant background knowledge prior to reading. Third, strategies for effective independent reading can and should be taught to students as ends in and of themselves, followed by explicit modeling of how learned strategies can be used effectively to comprehend text in a variety of text learning situations. Finally, reading instructional groups are social settings that have been shown to affect reading progress. In such social settings, teachers and skilled peers can serve as mediating agents, modeling and explaining to novice readers how to master the skills necessary to enjoy reading in a variety of contexts.

References

Adams, A., Carnine, D.W., & Gerston, R. (1982). Instructional strategies for studying content area texts in the intermediate grades. Reading Research Quarterly, 18, 27-55.

Allington, R.L. (1980). Teacher interruption behaviors during primary-grade oral reading. Journal of Educational Psychology, 72, 371-374.

Anderson, R.C. (1979). Schema-directed processes in language comprehension. In A. Lesgold, J. Pelligreno, S. Fokkema, & R. Glaser (Eds.), Cognitive psychology and instruction, New York: Plenum.

Anderson, R.C., & Freebody, P. (1981). Vocabulary knowledge. In J.T. Guthrie (Ed.) Comprehension and teaching: Research reviews (pp. 77-117). Newark, DE: International Reading Association.

Armbruster, B.B. (1984). The problem of "inconsiderate text." In G.G. Duffy, L.R. Roehler, J.N. Mason (Eds.), Comprehension instruction: Perspectives and suggestions. New York: Longman.

Armbruster, B.B., & Anderson, T.H. (1982, October). Idea-Mapping: The technique and its use in the classroom (Reading Education Report No. 36) Urbana: University of Illinois, Center for the Study of Reading.

Au, K.H. (1979). Using the experience-text-relationship method with minority children. The Reading Teacher, 32, 677-679.

Au, K.H., & Kawakami, A. (1986). The influence of social organization of instruction on children's text comprehension ability: A Vygotskian perspective. In T.E. Raphael (Ed.), Contexts of school-based literacy. New York: Random House.

Baker, L., & Stein, N. (1981). The development of prose comprehension skills. In C.M. Santa & B.L. Hayes (Eds.), Children's prose comprehension: Theory and practice, Newark, DE: International Reading Association.

Beck, I.L., & McKeown, M.G. (1981). Developing questions that promote comprehension: The story map. Language Arts, 58, 913-918.

Beck, I.L., McCaslin, E.S., & McKeown, M.G. (1981). Basal readers' purpose for story reading: Smoothly paving the road or setting up a detour? Elementary School Journal, 81, 156-161.

Beck, I.L., McKeown, M.G., & McCaslin, E.S. (1983). Vocabulary development: All contexts are not created equal. Elementary School Journal, 83, 177-181.

Bransford, J.D., & Johnson, M.K. (1972). Contextual prerequisites for understanding: Some investigations of comprehension and recall. Journal of Verbal Learning and Verbal Behavior, 11, 717-726.

Brown, A.L., Campione, J.C., & Day, J.D. (1981). Learning to learn: On training students to learn from text. Educational Researcher, 10, 14-21.

Brown, A.L., & DeLoache, J.S. (1978). Skills, plans, and self-regulation. In R. Siegler (Ed.), Children's thinking: What develops?, Hillsdale, NJ: Erlbaum.

Canney, G., & Winograd, P. (1977, April). Schemata for reading and reading comprehension performance (Technical Report No. 120). Urbana: University of Illinois, Center for the Study of Reading.

Chall, J.S. (1967). Learning to read: The great debate. New York: McGraw-Hill.

Collins, A., & Smith, E. (1980). Teaching the process of reading comprehension (Technical Report No. 182). Urbana, IL: University of Illinois, Center for the Study of Reading.

Clymer, T. (1963). The utility of phonic generalizations in the primary grades. The Reading Teacher, 16, 252-258.

Day, J.D. (1980). Teaching summarization skills: A comparison of training methods. Unpublished doctoral dissertation, University of Illinois, Champaign.

Duffy, G.G., Book, C., & Roehler, L.R. (1983). A study of direct teacher explanation during reading instruction. In J.A. Niles & L.A. Harris (Eds.), Searches for meaning in reading/language processing and instruction (pp. 295-303). Rochester, NY: National Reading Conference.

Duffy, G.G., Roehler, L.R., & Mason, J.N. (1984). Comprehension instruction: Perspectives and suggestions. New York: Longman.

Durkin, D. (1981). Reading comprehension instruction in five basal series. Reading Research Quarterly, 16, 515-544.

Fielding, L.G., Wilson, P.T., & Anderson, R.C. (1986). A new focus on free reading: The role of trade books in reading instruction. In T.E. Raphael (Ed.), Contexts of school-based literacy. New York: Random House.

Flavell, J.H., & Wellman, H.M. (1977). Metamemory. In R.V. Kail, Jr. & J.W. Hagen (Eds.), Perspectives on the development of memory and cognition. Hillsdale, NJ: Erlbaum.

Frase, L.T. (1977). Purpose in reading. In J.T. Guthrie (Ed.), Cognition, curriculum, and comprehension (pp. 42-64). Newark, DE: International Reading Association.

Garner, R., & Reis, R. (1981). Monitoring and resolving comprehension obstacles: An investigation of spontaneous text lookbacks among upper-grade good and poor comprehenders. Reading Research Quarterly, 4, 569-582.

Guthrie, J.T. (1981). Comprehension and teaching: Research reviews, Newark DE: International Reading Association.

Gipe, J.P. (1978-79). Investigating techniques for teaching word meanings. Reading Research Quarterly, 14, 624-644.

Green, J.L., & Harker, J.O. (1982). Reading to children: A communicative process. In J.A. Langer & M.T. Smith-Burke (Eds.), Reader meets author/bridging the gap. Newark, DE: International Reading Association.

Guszak, F.J. (1967). Teacher questioning and reading. The Reading Teacher, 21, 277-234.

Hansen, J., & Hubbard, R. (1984, March). Poor readers can draw inferences. The Reading Teacher, 37, 586-589.

Hansen, J., & Ahlfors, G. (1982). Instruction in inferential comprehension: An extension and a summary. In J.A. Niles & L.A. Harris (Eds.), New inquiries in reading research and instruction (pp. 54-59). Rochester, NY: National Reading Conference.

Hiebert, E.F. (1983). An examination of ability grouping for reading instruction. Reading Research Quarterly, 18, 231-255.

Huey, E.B. (1968). Psychology and pedagogy of reading. Cambridge, MA: MIT Press. (Original work published in 1908).

Johnson, D.D., & Barrett, T.C. (1981). Prose comprehension: A descriptive analysis of instructional practices. In J.T. Guthrie (Ed.), Children's prose comprehension: Theory and practice, Newark, DE: International Reading Association.

Kamil, M.L., & Pearson, P.D. (1979). Theory and practice in teaching reading. New York University Education Quarterly, 10(2), 10-16.

Kameenui, E.J., Carnine, D.W., & Freschi, R. (1982). Effects of text construction and instructional procedures for teaching word meanings on comprehension and recall. Reading Research Quarterly, 17, 367-388.

Markman, E.M. (1979). Realizing that you don't understand: Elementary school children's awareness of inconsistencies. Child Development, 50, 643-655.

Mason, J.N., Stewart, J., & Dunning, D. (1986). Measuring early reading: A window into kindergarten children's understanding. In T.E. Raphael (Ed.), Contexts of school-based literacy. New York: Random House.

McKeown, M.G. (1985). The acquisition of word meaning from context by children of high and low ability. Reading Research Quarterly, 20, 482-496.

National Assessment of Educational Progress (1982, July). Education Commission of the States (Report No. 11-R-02). Denver, CO.

Palinscar, A.S. (1984). The quest for meaning from expository text: A teacher guided journey. In G. Duffy, L. Roehler, & J. Mason (Eds.), Comprehension instruction: Perspectives and suggestions (pp. 251-264). New York: Longman.

Palinscar, A.S., & Brown, A.L. (1984, January). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities, Cognition and Instruction, 1(2), 117-175.

Paris, S.G., Lipson, M.Y., & Wixson, K.K. (1983). Becoming a strategic reader. Contemporary Educational Psychology, 8(3), 293-316.

Paris, S.G., & Myers, M. (1981). Comprehension monitoring, memory, and study strategies of good and poor readers. Journal of Reading Behavior, 13, 5-22.

Pearson, P.D. (1982). Asking questions about stories (Occasional Paper No. 15). Columbus, OH: Ginn.

Pearson, P.D., & Gallagher, M.C. (1983). The instruction of reading comprehension. Contemporary Educational Psychology, 8, 317-344.

Pearson, P.D., Hansen, J., & Gordon, C. (1979). The effect of background knowledge on young children's comprehension of explicit and implicit information. Journal of Reading Behavior, 9, 201-210.

Pearson, P.D., & Tierney, R.J. (1983). Toward a composing model of reading. Language Arts, 60, 568-581.

Raphael, T.E. (Ed.). (1986). Contents of school-based literacy. New York: Random House.

Raphael, T.E. (1984). Teaching learners about sources of information for answering questions. Journal of Reading, 27, 303-311.

Raphael, T.E., & Gavelek, J.R. (1984). Successful reading instruction: Orchestrating the learning environment. Michigan Reading Journal, 17(1), 17-21.

Raphael, T.E., & McKinney, J. (1983). An examination of 5th and 8th grade children's question answering behavior: An instructional study in metacognition. Journal of Reading Behavior, 15, 67-86.

Raphael, T.E., & Pearson, P.D. (1985). Increasing students' awareness of sources of information for answering questions. American Educational Research Journal, 22, 217-235.

Raphael, T.E., Winograd, P., & Pearson, P.D. (1980). Strategies children use when answering questions. In M.L. Kamil & A.J. Moe (Eds.), Perspectives on reading research and instruction (pp. 56-63). Washington, DC: National Reading Conference.

Raphael, T.E., & Wonnacott, C.A. (1985). Heightening fourth grade students' sensitivity to sources of information for answering questions. Reading Research Quarterly, 20, 282-296.

Rogoff, B. (1982). Integrating context and cognitive development. In M.E. Lamb & A.L. Brown (Eds.), Advances in Developmental Psychology (Vol. 2). Hillsdale, NJ: Erlbaum.

Ryan, E.B. (1981). Identifying and remediating failures in reading comprehenders. In T.G. Waller & G.E. McKinnon (Eds.), Advances in reading research. New York: Academic Press.

Samuels, S.J., Begy, G., & Chen, C.C. (1975-76). Comparison of word recognition speed and strategies of less skilled and more highly skilled readers. Reading Research Quarterly, 11, 72-86.

Schwartz, R.M., & Raphael, T.E. (1985). Concept of definition: A key to improving students' vocabulary. Reading Teacher, 39, 198-205.

Smirnov, A.A., & Zinchenko, P.I. (1969). Problems in the psychology of memory. In M. Cole & I. Maltzman (Eds.), A handbook of contemporary Soviet psychology (pp. 452-502). New York: Basic Books.

Taylor, B.M. (1982). A summarizing strategy to improve middle grade students' reading and writing skills. Reading Teacher, 36, 202-205.

Thorndike, E.L. (1917). Reading as reasoning: A study of mistakes in paragraph reading. Journal of Educational Psychology, 8, 323-332.

Vygotsky, L.S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Weinstein, R.S. (1986). The teaching of reading and children's awareness of teacher expectations. In T.E. Raphael (Ed.), Contexts of school-based literacy. New York: Random House.

Winograd, P.N. (1984). Strategic difficulties in summarizing texts. Reading Research Quarterly, 19, 404-425.

Wixson, K.K., & Lipson, M.Y. (1986). Reading (dis)ability: An interactionist perspective. In T.E. Raphael (Ed.), Contexts of school-based literacy. New York: Random House.

Wonnacott, C.A., & Raphael, T.E. (1982, April). Children's question-answering ability: A study in metacognition. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, CA.

Additional Readings

The purpose of this list of additional readings is to highlight some books and journals, many of which are found in the reference list, that are particularly informative for those seeking further information on the topic of translating reading research into practice. In addition, there are many areas that could not be covered adequately in this paper. Thus, the readings will be grouped according to (a) review and synthesis of research in reading, (b) teaching reading, (c) integrating reading and writing, (d) diagnosing reading problems, and (e) journals.

Review and Synthesis of Research in Reading

Duffy, G.G., Roehler, L.R., & Mason, J.N. (1984). Comprehension instruction: Perspectives and suggestions. New York: Longman.

This book is based on a joint, year-long seminar between staff members of the Institute for Research on Teaching at Michigan State University and those of the Center for the Study of Reading at the University of Illinois. Thus, it provides a good overview of how information about instruction and information based on cognitive psychology can improve our abilities to teach reading effectively.

Flood, J. (1984). Understanding comprehension. Newark, DE: International Reading Association.

This book is a collection of articles by scholars in three areas: cognition, language, and the structure of written language. Together, the chapters provide teachers with a basis for re-examining their present teaching practices in light of current research and for evaluating new techniques offered in journals, and graduate and inservice programs.

Guthrie, T. (1981). Comprehension and teaching: Research reviews. Newark, DE: International Reading Association.

This relatively short paperback book provides teachers with reviews of research relevant to the classroom. The first half of the book includes overviews of processes in reading such as making inferences, and of how the social context influences these processes. The second half focuses on practices in education, including instructional variables and characteristics of exemplary reading programs.

Pearson, P.D. (1984). Handbook of reading research. New York: Longman.

This book contains chapters by many of the leading scholars in the field of reading. Each contributor synthesized his or her area of research by first providing a brief history of the area, then describing the "state of the art" in terms of what we have learned, finally providing a look towards future issues and questions that professionals in reading must address. This book represents the most current and thorough examination of research in reading today.

Books About Teaching Reading

Flood, J. 1984. Promoting reading comprehension. Newark, DE: International Reading Association.

This book is designed as a companion to Flood's Understanding comprehension book described in the preceding section. The contributors to this volume describe both specific reading methods and activities and general reading programs that are consistent with what we have learned from the study of language, cognition, and structure of written language.

Harris, A.J., & Sipay, E.R. (1984). Readings on reading instruction. New York: Longman.

This book includes a collection of articles from a variety of sources, organized around such topics as contrasting views of reading instruction, language and reading, teaching reading to children with special needs, developing reading vocabulary, and beginning reading instruction. The authors have included more than 80 articles, some already considered classics. A variety of viewpoints about both research and instruction are presented.

Johnson, D.D., & Pearson, P.D. (1984). Teaching reading vocabulary. New York: Holt, Rinehart & Winston.

This book provides the classroom teacher with many concrete lessons and activities for the teaching of concepts. The focus of the suggested activities is on the importance of linking new ideas with concepts the children already have in their background knowledge. Specific activities are described in addition to general principles of instruction to develop children's reading and oral vocabulary.

Pearson, P.D., & Johnson, D.D. (1978). Teaching reading comprehension. New York: Holt, Rinehart & Winston.

While still relatively recent, this book is becoming a classic. It was one of the first books to describe the processes of how information from print is comprehended, stressing the importance of background knowledge, and the principle of bridging from known to new information. Ideas for drawing these "bridges" are described throughout the chapters.

McNeil, J. (1984). Reading comprehension: New directions for classroom practice. Glenview, IL: Scott Foresman.

This is a short, but idea-packed book which focuses on how teachers can use ideas from research immediately in their classroom teaching. Its chapters describe such concepts as schema theory, metacognition, and comprehension, then provide techniques for applying these concepts in the teaching of reading. Its general focus provides information for the elementary as well as secondary school teacher.

Connecting Reading and Writing

Langer, J. and Smith-Burke, T. (1982). Reader meets author: Bridging the gap. Newark, DE: International Reading Association.

This book provides the teacher with an overview of the position that reading and writing are constructive processes. The writers note that authors make certain assumptions about their potential readers, readers make assumptions about what the authors are trying to convey. This book is an initial attempt to pull together information that relates to both reading and writing, taking the position that reading is as active and as constructive a process as is writing.

Jensen, J. (1984). Composing and Comprehending. Urbana, IL: National Council of Teachers of English.

This book is a succinct source for many excellent articles that have been published in the journal Language Arts. Jensen has identified classic, informative articles that describe the relationships between reading and writing. She has selected a range from articles that describe theory underlying these connections and that provide examples of classroom techniques that can lead children to make explicit connections between reading and writing.

Raphael, T.E. (Ed.), 1986. Contexts of school-based literacy. New York: Random House.

This book is based on a conference designed to bring together scholars from areas not often directly connected in a single source. Experts in areas of research on teaching, reading, writing, and cognitive psychology all focused on what their areas can contribute to building a better environment for instruction in literacy. The book includes a range of information such as descriptions of the relationships between the classroom environment and children's abilities to read and write, descriptions of the relationships between classroom environment and suggestions for how to diagnose and remediate problems in reading, and suggestions for creating an appropriate environment for developing literacy in schools.

Assessing Reading Abilities

Gillette, J.W., & Temple, C.W. (1982). Understanding reading problems. Boston, MA: Little Brown.

This book, often used as a textbook, is an excellent source for information about what can lead to reading problems, how teachers can evaluate problems both formally and informally, and potential areas for remediation. It also includes a list of other sources for further information.

Johnston, P. (1983). Reading comprehension assessment: A cognitive basis. Newark, DE: International Reading Association.

This book provides teachers with a sense of future directions in the field of assessment. Johnston describes the comprehension processes, factors which influence the assessment of comprehension, and, perhaps most important, difficulties in accurately measuring problems in comprehension. Future directions considering what should be assessed and possible means for doing so are then discussed.

Wixson, K.K., & Lipson, M.Y.L. (in press). Reading (dis)ability: An interactionist perspective. In T.E. Raphael (Ed.), Contexts of school-based literacy. New York: Random House.

This chapter extends the information provided in Johnston's book noting how reading assessment should proceed. The authors first provide evidence that reading is an extremely complex process. They then make a convincing argument that our current testing procedures provide little or no information about how to correct the child's problems. Instead, the authors provide teachers with a number of alternatives for assessing children's reading performance in ways that lead immediately to selection of methods for teaching the child having problems.

History of Reading Research and Practice

Huey, E.B., 1968. The Psychology and Pedagogy of Reading. Cambridge, MA: MIT Press. (Original published in 1908).

This reissue of the 1908 classic review of research and teaching practices is a fascinating account of both how much, and how little, we have learned about how to teach reading. Huey had insight into the major problems in comprehension, and intuitions about how to study and teach. He was one of the first of the cognitive psychologists to study reading, and this book attests to the traditions begun prior to and during the early part of this century.

Mathews, M. Teaching Reading: Historically Considered. Chicago: University of Chicago Press.

This book documents the history of reading instruction, from the time of the introduction of the alphabet to the Greeks through the 1960's. The book abounds with anecdotes of the people and the movements which led to the expansion of reading instruction, making the field of reading alive for the reader. At times humorous, always interesting, it provides information for those interested in the roots of our current attitudes towards reading instruction.

Journals for Additional Information

Reading Research Quarterly (research journal of the International Reading Association)

Journal of Reading Behavior (research journal of the National Reading Conference)

Research in the Teaching of English (research journal of the National Council of Teachers of English)

Reading Teacher (focus on elementary classroom reading instruction, published by the International Reading Association)

Journal of Reading (focus on classroom practice, grades 4 - 12, published by the International Reading Association)

Language Arts (Focus on classroom practice, particularly integration of language arts, published by National Council of Teachers of English)

Reading Educator Reports (Dissemination of research and practice from the University of Illinois, Center for the Study of Reading, Champaign).